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Welcome



1. Welcome

The myGaze® Assistive System consists of myGaze® EyeMouse Play and myGaze® Assistive Eye Tracker, both developed by Visual Interaction GmbH. With a few easy steps, this system can be setup and running to assist users with varying abilities to interact with Windows-based applications using only their eye gaze.

This User Guide describes how to install and configure myGaze® EyeMouse Play and to mount the myGaze Assistive Eye Tracker.



For more information about myGaze®, refer to the *myGaze® User Manual*.

Document Information

Document Version: 1.5 Release Date: January 2015 Software Version: 1.4.9

For more information as well as access to additional support information and downloads, visit the myGaze website at www.mygaze.com

Copyright © 2015 Visual Interaction (VI). All other product names are copyright of their respective owners.

See <u>License Agreement and Warranty</u> for rights and responsibilities of the use of this product.



Please read this User Guide carefully to ensure best results.

1.1 Contacting Visual Interaction GmbH

Visual Interaction GmbH (VI)

Behlertstraße 3a/Haus B2 D-14467 Potsdam Germany

Phone: +49 (331) 235 21 52 Fax: +49 (331) 235 22 22 e-mail: <u>info@mygaze.com</u> Web: <u>www.mygaze.com</u>

Technical Support: support@mygaze.com

1.2 Product Liability

Visual Interaction GmbH (VI) does not assume liability for resultant damages to property or personal injury if the product has been misused in any way or damaged by improper use or failure to observe these operating instructions. In addition, any unauthorized modifications or repairs of the device will render the warranty null and void!

1.3 Magnet Precautions

The myGaze Assistive Eye Tracker contains Neodymium magnets (Rare Earth magnets). This allows the device to be quickly connected to the Mounting Bracket which is attached to a monitor. However, this type of magnet is extremely strong and must, therefore, be handled with extreme care.



Handling Warnings

- Do not confuse Neodymium magnets with standard "fridge magnets".
 Neodymium magnets can cause injury if not used properly.
- Do not place your fingers between the two magnets while connecting the myGaze Assistive Eye Tracker to the Mounting Bracket. Two attracting magnets have enormous strength and can severely pinch your fingers if placed between the magnets while connecting the myGaze Assistive Eye Tracker.
- Do not let the myGaze Assistive Eye Tracker freely connect to the Mounting Bracket. Although Neodymium magnets have high strength, they are also very brittle and prone to cracking and chipping. If connected too quickly, or if the myGaze Assistive Eye Tracker is dropped, the magnets may shatter and scatter shards of the magnet, possibly even towards the user's eyes.
- Neodymium magnets have strong magnetic fields and likely to cause damage to magnetic media devices. Therefore, keep the myGaze Assistive Eye Tracker away from magnetic media such as hard drives, memory sticks, credit cards, magnetic I.D. cards, or other magnetic media.

- KEEP THE DEVICE IN THE STORAGE CASE WHEN NOT IN USE.
- Do not place metal items near the magnets on the myGaze Assistive Eye Tracker. Metal items such as keys, knives, or tools may cause the magnet to shatter.
- Do not leave the myGaze Assistive Eye Tracker near an open flame or a heat source. Not only will the device be destroyed, but the Neodymium magnets will ignite, burn and create toxic fumes.

Health Warnings



Neodymium magnets should NEVER be used near a person who uses medical aids such as a pacemaker. The magnet can cause the medical aid to malfunction. Individuals with pacemakers or internal medical devices should use caution when handling the myGaze

Assistive Eye Tracker and the Mounting Bracket. Magnetic fields may affect the operation of these devices. Consult your physician and the manufacturer of your medical device to determine its susceptibility to static magnetic fields prior to handling the myGaze Assistive Eye Tracker and the Mounting Bracket. All of our magnetic products should be kept at a safe distance from individuals with these devices.

Do not handle the myGaze Assistive Eye Tracker while eating. The metal compounds in the magnets may be toxic when ingested after handling food.

Warnings Regarding Children and Magnets

NEODYMIUM MAGNETS (RARE-EARTH) MAGNETS SHOULD BE KEPT OUT OF REACH OF CHILDREN. RARE-EARTH MAGNETS ARE NOT TOYS.

Children should not be allowed to handle or play with rare-earth magnets. Small magnets pose a choking hazard. Children and adults should not ingest magnets or place magnets in any body orifice such the ear, nose or mouth. Ingestion of magnets is very hazardous. If magnets are ingested or aspirated to the lungs, immediate medical attention is required. Swallowed magnets can stick together across intestines causing serious infections and death. Seek immediate medical attention if magnets are swallowed or inhaled. Children

under 3 should not handle magnets, in any case.

Transportation

The International Air Transport Association (IATA) Dangerous Goods Regulations provide guidelines for the identification, classification, and testing of potentially hazardous materials offered for transports by air. IATA Packing Instruction 902 defines the acceptance criteria and provides packaging guidelines for magnetized material. These instructions should be consulted prior to transporting magnetic material by air. These regulations also apply to magnets built-in to products such as the myGaze Assistive Eye Tracker and the Mounting Bracket.

1.4 Declaration of Conformity



SMI products are for use in office environments and bear the CE mark to indicate compliance with the health and safety requirements according to European Directives. For individual product declarations please refer to sales@smivision.de.

All Visual Interaction eye tracking equipment has been tested and found to comply with the limits for Class B digital devices, pursuant to Part 15 of the FCC Rules and EMC directive 2004/108/EEC, and conforms to the low-voltage directive 2006/95/EEC.

1.5 Product Maintenance

To keep the myGaze Assistive Eye Tracker in good working order, we highly recommend that you:

- Regularly clean the shield (front glass face) of the device using the supplied microfiber cloth.
- After using the device, store it safely in the provided case.
- Do not leave the device exposed to direct sunlight, even when not in use.
 Store it in the case.
- Keep liquids and other contaminants away from the device.

Should the myGaze Assistive Eye Tracker become damaged, we highly recommend that you:

- Immediately unplug it from the USB port.
- Do not use the device until it has been repaired or replaced.



Do not attempt to repair the myGaze Assistive Eye Tracker by yourself. There are no user-serviceable parts in the device. Servicing, adjustment or repair should only be done by a certified distributor or by Visual Interaction GmbH.

1.6 Document Conventions

The following conventions are used in this document:

Indicates filenames and file extensions and, in

some cases, product names.

Bold Used for user interface buttons, selections,

checkboxes, application windows and screen

names.

Underlined In the PDF and Online Help version of this

manual, indicates references to a related topic in this manual or to internet addresses. In the printed version, page numbers are provided for

references.

Note icon indicating additional information.

Warning icon indicating reader should pay careful attention to the information.

Reference (See Also) icon indicating a related topic. In the printed version, page numbers are

shown next to topic title.





1.7 Glossary

Binocular Mode

Both eyes are tracked to obtain values.

Calibration

Ensures the gaze of the participant is accurately tracked throughout the scene by adjusting the internal eye model of the software to adapt the user's eyes.

Click

In this document, it refers to a mouse click with the physical mouse. Select refers to a Gaze-Click with EyeMouse Play.

Calibration point

A point or circle displayed on a screen upon which a user must fixate (or focus on) for a short duration.

Delay

Sets the delay time that must elapse before a gaze dwell period starts.

Duration

Sets the duration of the dwell time. This is the amount of time a user's gaze must dwell on a selection item before the item is activated.

Display, monitor

Generally referring to the same device, but a Display is a term used in this document to refer to a Laptop screen, while Monitor is used in this document for a desktop PC screen.

Fixation

A continuous looking at a location on a computer display.

Gaze

A fixation on an element of a scene, whether on a computer display or in a real-world environment.

Monocular Left / Right

Select only one eye channel. Useful when one eye cannot be tracked.

Operator

Person such as teacher or caregiver who is responsible for setting up the hardware and software of an experiment using the eye tracker.

Operating Distance

Distance between the subject and the cameras on the eye tracker.

Reference Point

A mark on the housing of the eye tracker used to align the eye tracker with the center of the Desktop Monitor or Laptop Display.

Select

In this document, it refers to a Gaze-Click with EyeMouse Play. Click refers to a mouse click with the physical mouse.

Tracking

Setting which determines how the eye tracker will track the participant's eyes.

USB 2.0

Generally, USB 2.0, first available in April 2000, is called High Speed USB with a limiting signaling rate of 280 Mbits/s.

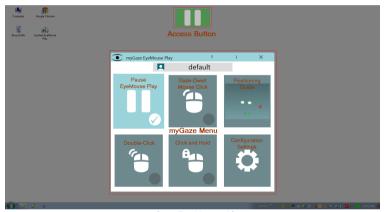
myGaze Assistive System



2. myGaze Assistive System

myGaze Assistive System consists of a software component, EyeMouse Play, and a hardware component, myGaze® Assistive Eye Tracker.

EyeMouse Play allows users of varying abilities to access and control
Windows™-based programs using only their eye gaze. With EyeMouse Play,
tasks such as launching applications with a "double-click", selecting menu
items with a "single-click" or "typing" using an on-screen keyboard can be
easily performed.



myGaze EyeMouse Play

 myGaze Assistive Eye Tracker tracks the user's eyes to provide input to EyeMouse Play to replicate mouse actions.



myGaze Assistive Eye Tracker mounted on a Laptop and Monitor

2.1 Minimum System Requirements

To achieve the best performance with myGaze Assistive Eye Tracker and EyeMouse Play, we recommend that your PC or Laptop have the following minimum system requirements:

Item	Requirements
Operating System	Microsoft™ Windows™ 7 (32 or 64 bit x86)
	Microsoft™ Windows™ 8 (32 or 64 bit x86)
	Microsoft™ Windows™ 8.1 (32 or 64 bit x86)
	Do not use Microsoft XP or older.
Additional software	Microsoft DirectX Version 9.0c or later
	This is installed by default in Windows. If necessary, check Microsoft Support to learn how to determine version.
PC Hardware	Intel® i5 2.6 GHz CPU or faster

Item	Requirements
	Do not use a PC or Laptop with an AMD chip.
RAM	2 GB RAM
USB Port	USB 2.0 port
Monitor size	Screen size of between 10" to 22"



For more information see the *myGaze™ User Guide*.

2.2 Components

The myGaze Assistive Eye Tracker and accessories are stored in a soft carrying case to protect the device when not in use. The following table lists the components provided with the myGaze Assistive Eye Tracker.

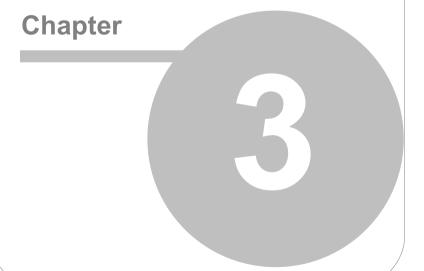
Component		Description
myGaze Eye Tracking Device	1	Handle the myGaze Assistive Eye Tracker with care as it is a sophisticated electronic device with sensitive cameras.
20° Angle Bracket	1	Places the myGaze Assistive Eye Tracker securely in the hinge area of a Laptop.
Mounting Bracket	1	Securely holds the myGaze Assistive Eye Tracker to the bottom side of a Monitor.
Neoprene Soft Protective Case	1	Used to safely store the myGaze Eye Tracking Device and to protect the device from scratches when stored.
Replacement magnetic tape for Angle Bracket	3	Replacement magnetic tape for using the Angle Bracket with additional Laptops.
Double-sided tape	1	Replacement tape for using the Mounting Bracket with an additional Monitor.

2.3 Optimal User Conditions

The myGaze Assistive Eye Tracker is an optical camera system based on infrared technology. Therefore, to ensure the myGaze Assistive Eye Tracker is operated under optimal conditions, do the following:

- The user should sit at a distance of between 50 cm and 75 cm from a Monitor or Laptop.
- Minimize any interference from direct sunlight on the myGaze Assistive Eye Tracker.
- Do not use the myGaze Assistive Eye Tracker in conditions where the user's pupils would dilate and contract frequently, such as bright lights switching on and off.
- Do not cover or block the myGaze Assistive Eye Tracker when it is powered up and is connected to the PC.
- When a user is wearing glasses, make sure the glasses are clean and free of streaks so that light does not reflect off the glasses and become visible.
- Do not use a Monitor larger than 22 inches.
- For best results, the brightness of the background color of the calibration test should be similar to the mean brightness of the stimuli shown during the experiment. This is important as to avoid large variations in the pupils of the user's eyes during the experiment, to achieve best data accuracy.

Getting Started



3. Getting Started

Only a few easy steps are required to setup and run the myGaze Assistive System. Detailed instructions are provided in later sections of this User Guide.



Ensure your PC, Laptop, or Tablet meets the minimum system requirements. See System Requirements.

Step 1: Obtain the Installation Package

The Installation Package contains the EyeMouse Play and required drivers.

- 1. Go to the **Downloads** section of the myGaze website at forum.mygaze.com/download/.
- 2. Enter your username and password. You can find your username and password on the invoice or delivery note from the web shop.
- 3. Click the download link for the EyeMouse Play installer *myGaze EyeMouse Play.msi*.
- 4. On the **File Download** dialog, click **Save File** to download the installer to your PC or Laptop.

Step 2: Install the Software

Run the EyeMouse Play installer *myGaze EyeMouse Play.msi* to start the setup wizard. Follow the instructions on the Wizard.



See Installing myGaze EyeMouse Play.

Step 2: Mount the myGaze Eye Tracker

Before using EyeMouse Play, mount the myGaze Assistive Eye Tracker to your Desktop PC or Laptop and connected to a free USB port. Carefully follow the instructions in the respective sections for a Desktop PC or Laptop.



See Mounting the myGaze Eye Tracker.

Step 4: Unhide the Gaze Positioning Icon, if required

EyeMouse Play provides a **Gaze Positioning** icon in the system tray. This may not be displayed by default. Unhide the Gaze Positioning icon, if necessary.



See Unhiding the Gaze Positioning Icon

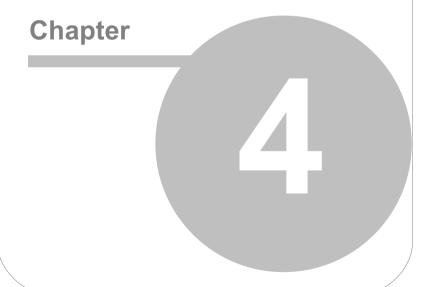
Step 5: Configure and Use EyeMouse Play

Start EyeMouse Play to begin using myGaze Assistive.



See <u>Using myGaze EyeMouse Play</u>

Installing EyeMouse Play



4. Installing EyeMouse Play

The Installation Package for EyeMouse Play is available from the **Downloads** section of the myGaze website. This Installation Package also includes the required drivers for the myGaze Assistive Eye Tracker.

4.1 Downloading the Installer

To download the EyeMouse Play Installer:

- Go to the **Downloads** section of the myGaze® website at forum.mygaze.com/download/.
- In the Customer Login area, enter your log-in information provided to you by Visual Interaction GmbH.



Downloads section of the myGaze website



If you have difficulty logging in, contact Visual Interaction.

3. Download the EyeMouse Play installer myGaze EyeMouse Play.msi.



As the installer is an executable, your browser may prevent the file from downloading. Check the browser's download settings or consult your system administrator for assistance.

4.2 Installing the Software

To install EyeMouse Play:

- 1. Run the EyeMouse Play installer myGaze EyeMouse Play.msi.
- 2. On the **Welcome** page in the Setup Wizard, click **Next** to continue.



EyeMouse Play setup wizard - Welcome

- On the End-User License Agreement page, check I agree to accept the agreement and click Install to continue.
- 4. EyeMouse Play will now be installed.

When the installation has completed, click Finish to dismiss the Setup Wizard.



EyeMouse Play setup wizard - Installation Complete

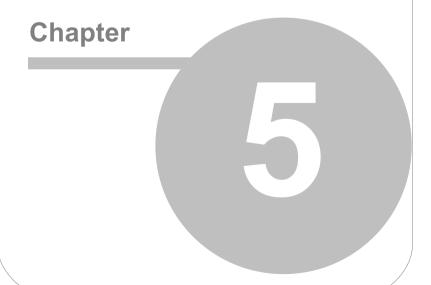
A shortcut will be placed on the desktop and a Gaze Positioning icon will be added in the system tray.





If the **Gaze Positioning** icon did not appear in the system tray, see Unhiding the Gaze Positioning Icon.

Mounting the myGaze Assistive Eye Tracker



5. Mounting the myGaze Assistive Eye Tracker

Before using EyeMouse Play, the myGaze Assistive Eye Tracker should be mounted to your PC or Laptop and connected to an available USB 2.0 port.

Mounting on a Laptop Display

If you are using a Laptop Display, a magnetic Angle Bracket is provided to place the device in the hinge area of the Laptop.



myGaze Eye Tracker mounted in the hinge area of a Laptop



See Placing the Device on a Desktop Monitor

Mounting on a Desktop Monitor

If you are using a PC, the Mounting Bracket is attached to the bottom edge of the Desktop Monitor.



myGaze Eye Tracker mounted on a Desktop Monitor



See Placing the Device on a Laptop.

Mounting on a Tablet

If you are using a Tablet, you can use the magnetic Angle Bracket as well, but the device will need to be supported to sit at an angle upwards towards the user's eyes.

5.1 Reference Point

To ensure the device is mounted correctly, a Reference Point has been provided on the top side of the myGaze Assistive Eye Tracker. This point is used to locate the device in the center of the screen. The USB cable is the right when the device is correctly placed.



Reference Point

5.2 Mounting on a Desktop Monitor

The myGaze Assistive Eye Tracker is designed to be attached to the **bottom edge** (not the front face) of the Desktop Monitor frame using the Mounting Bracket. This Bracket is attached to the frame with an strong adhesive strip. Ensure the frame is clean before attaching the Mounting Bracket to ensure good adhesion.



The myGaze Assistive Eye Tracker can only be used with a Desktop Monitor with a screen size of between 10" to 22".

To mount the bracket on a Desktop Monitor:

1. Locate the horizontal center point of the Desktop Monitor (including the frame).



Mounting Bracket located at center of Monitor

2. Remove the protective cover from the adhesive strip on the bracket.



Remove adhesive strip



Replacement adhesive strips are provided in the kit for later use if you plan on using the device on other Desktop Monitors.

3. Attach the Mounting Bracket at the center point and on the bottom side of the Desktop Monitor using the adhesive strip. Press and hold for a few moments to ensure adhesion to the frame.



Mounting Bracket attached



High-strength magnets on the Mounting Bracket securely attach the myGaze Assistive Eye Tracker to the bracket. These magnets should be handled with care. See <u>Magnet Precautions</u>.

4. Attach the myGaze Assistive Eye Tracker to the Mounting Bracket using the magnetic connectors.



Attach using magnetic connectors

5. Ensure the USB cable is to the right and the Reference Point is on top.



Reference Point on top and USB cable to the rigth

6. Angle the myGaze Assistive Eye Tracker upwards towards the eyes of the user.



Eye Tracker mounted on a Monitor

- 7. Connect the myGaze Assistive Eye Tracker to an available USB 2.0 port.
- 8. A completed setup of the myGaze Eye Tracker on a Desktop Monitor is illustrated below.



Completed setup

5.3 Mounting on a Laptop Display

An Angle Bracket is provided to use the myGaze Assistive Eye Tracker with a Laptop.

To place the myGaze Assistive Eye Tracker on a Laptop Display:

- 1. Locate the horizontal center point of the Laptop Display.
- 2. If the lower frame of the Laptop Display has sufficient height, attach a magnetic strip to the lower edge of the frame. Ensure it is centered and then connect the Angle Bracket to the magnetic strip. Otherwise, simply place the Angle Bracket in the hinge area of the Laptop.



The Angle Bracket provides a "TOP" indicator and an arrow to show the correct orientation of the bracket. This is to ensure that the Angle Bracket is located in the correct position in the hinge area of the Laptop.



Angle Bracket

3. Connect the myGaze Assistive Eye Tracker to the Angle Bracket. Ensure the USB cable is to the right and the Reference Point is on top.



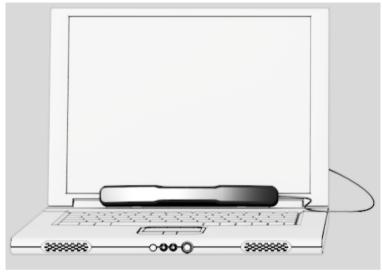
Angle Bracket attached

- 4. Place the myGaze Assistive Eye Tracker at the horizontal center point (as located in step 1 above) and in the hinge area of the laptop.
- 5. Adjust the angle of the myGaze Assistive Eye Tracker by tilting the Laptop Display.



Device attached to Angle Bracket

- 6. Connect the myGaze Eye Tracker to the Laptop using a USB 2.0 port.
- 7. A completed setup of the myGaze Eye Tracker on a Laptop is illustrated below.

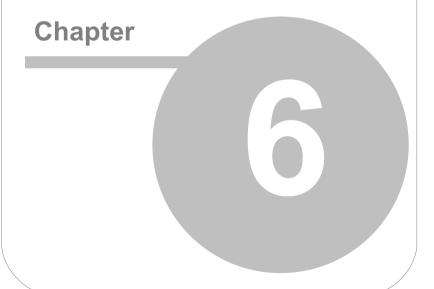


Completed setup



In some instances the Laptop Display may dim after connecting the myGaze Assistive Eye Tracker to the Laptop's USB port. If this happens disconnect the device from the Laptop and contact the Visual Interaction customer support line at support@mygaze.com.

EyeMouse Play Overview



6. EyeMouse Play Overview

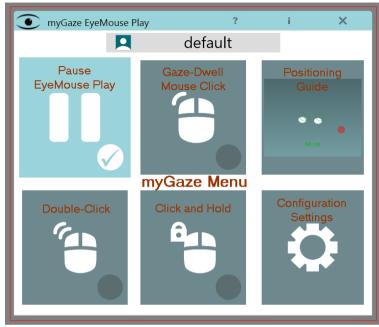
EyeMouse Play consists of an **Access** button and the **myGaze Menu**. The following figure shows a typical Window[™] 7 screen with EyeMouse Play running. The **Access** button is shown at the top of the screen while the **myGaze Menu** is shown in the center of the screen. The screen also dims so that the user can focus on using the **myGaze Menu**.



EyeMouse Play displaying the myGaze Menu

6.1 myGaze Menu

The myGaze Menu consists of the following functions:



myGaze Menu

- Pause EyeMouse Play Stops gaze control of the mouse.
- Gaze-Dwell Mouse Click Allows the user to issue a mouse-click command by fixating on an object for a pre-definable time.
- Positioning Guide Provides a visual cue to the user to position themselves at the optimal position and distance from the PC Monitor or Laptop.
- **Double Click** Allows the user to perform a double-click mouse action, such as launching an application.
- Click and Hold Allows the user to click and hold an object after a dwell period.

 Configuration Settings - Used to configure EyeMouse Play for specific users and conditions.



The **myGaze Menu** is automatically hidden after making a selection from the menu.

6.2 Access Button

The **Access** button is used to show the **myGaze Menu**, which is hidden by default so as not to interfere with the use of the computer. Gazing at the **Access** button displays the **myGaze Menu**.



Once the myGaze Assistive Eye Tracker is connected and running, and the user is sitting optimally in front of the screen, the **Access** button turns green.



Access Button - myGaze Assistive Eye Tracker Running

6.3 Status Colors

Three status colors are provided to help users find an optimal position to sit in front of the myGaze Assistive Eye Tracker:

• **Red** - Indicates the user is not in the correct position. Adjust the position of the user in front of the screen by using the arrows in the **Positioning Guide** window in the **myGaze Menu**.



Access button - red status

 Orange - Indicates the user is not in an optimal position, but can be improved. Nevertheless, the myGaze Assistive Eye Tracker is able to track the user. Adjust the position of the user by using the arrows in the Positioning Guide window in the myGaze Menu.



Access button - orange status

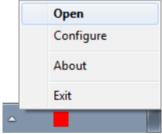
• **Green** - Indicates the user is in the optimal position.



Access button - green status

6.4 Gaze Positioning Icon

A **Gaze Positioning** icon is provided in the system tray as a status indicator. It shows the same status colors as the **Access** button.



Gaze Positioning icon in the system tray



If the **myGaze Positioning** icon does not appear in the system tray, ensure that you unhide it manually. See <u>Unhiding the Position Icon</u>.

6.5 Positioning Window

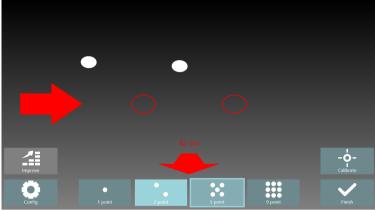
EyeMouse Play provides a **Positioning** window as part of the **Calibration** window and in the **myGaze Menu** to help a user find the optimal position to

sit in front of the myGaze Assistive Eye Tracker. In the center are ovals which represent the ideal position for the user's gaze. The user simply aligns their gaze with these ovals by moving left or right. The measurement under the ovals indicates the distance (in cm) from the myGaze Assistive Eye Tracker. Arrows guide the user to move away from or closer to the myGaze Assistive Eye Tracker.



Positioning Window with user in optimum position

The color of the positioning guides, including the ovals, are based on the status colors: Red for eyes cannot be tracked, Orange for trackable eyes but not optimal and Green for trackable eyes and optimal.



Positioning Windows showing adjustment needed by the user



6.6 Overriding EyeMouse Play with PC Mouse

A care-giver or teacher can always override EyeMouse Play by simply using the PC mouse, either moving it, clicking it or right clicking it. This ensures a care-giver or teacher can always override EyeMouse Play to assist a user whenever they have difficulty performing a task. Control returns to EyeMouse Play after the PC mouse has become inactive for four (4) seconds.

6.7 Updating the Software

Visual Interaction GmbH relies on continuous user feedback to improve the software. Regular software updates are made available for the user through notifications in EyeMouse Play. These updates are not automatically downloaded and installed. You can decide whether you want to update the software, although it is recommended.

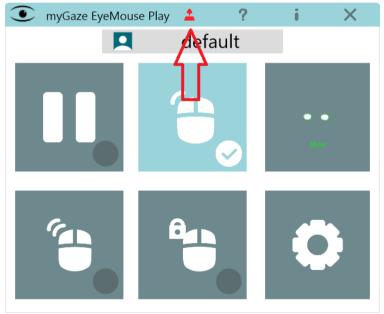
Notification of software updates are made available in the Title Bar of the **MyGaze Menu** or on the **System** tab in the **Configuration** window.



The previous version does not need to be uninstalled.

myGaze Menu Notification icon

When an update of EyeMouse Play is released, notification of its availability will be automatically made through a **Notification** icon in the Title Bar of the **myGaze Menu** (internet connection required). Click this icon and the update will be automatically downloaded and installed.

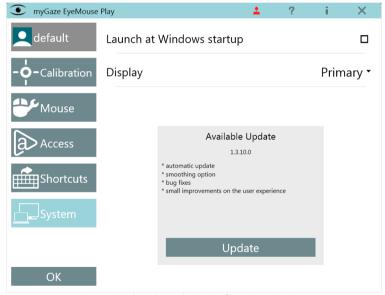


Notification icon for a new software release

Systems tab notification

Alternately, if a new version is available, an update notification will appear in the **Systems** menu of the **Configuration** window:

- Open the Configuration Window from the myGaze Menu using the Access button.
- 2. Select or click the **System** tab.
- 3. Information is provided about the latest version.
- 4. Click **Update** to install the latest version automatically.



System Update through the Configuration window

Using EyeMouse Play



7. Using EyeMouse Play

Once the myGaze Assistive Eye Tracker has been mounted on your PC, Laptop or Tablet and EyeMouse Play has been installed, you are ready to use the myGaze Assistive System. The **myGaze Menu** provides access to the myGaze EyeMouse Play functions.



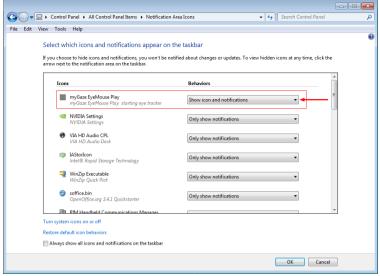
In the following sections, the term **Select** refers to a gaze, while the term **Click** refers to a mouse click with the physical mouse.

7.1 Unhiding the Gaze Positioning Icon

EyeMouse Play provides a **Gaze Positioning** icon located in the System Tray. This may not be displayed by default. The **Notifications** area of Windows™ is used to show the icon in the System Tray.

To show the **Gaze Positioning** icon:

- 1. Go to Control Panel > Appearance and Personalization > Customize icons in the task bar.
- 2. Locate **myGaze EyeMouse Play** and select **Show icon and notifications** from the dropdown menu.



Unhiding Notification icon



You can check **Always show all icons and notifications on the taskbar** so that the **Gaze Positioning** icon appears on the taskbar rather than in the System Tray pop-up window.

7.2 Starting EyeMouse Play

To start EyeMouse Play:

- 1. Ensure myGaze Assistive Eye Tracker is connected to a USB 2.0 port.
- 2. Start EyeMouse Play.



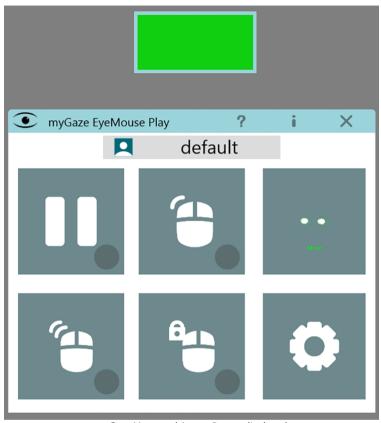
The screen dimensions of the Laptop, PC or Tablet will be automatically detected.

3. The **Access** button and the **myGaze Menu** will appear with the desktop dimmed to allow the user to focus on the **myGaze Menu**.



myGaze Assistive Eye Tracker starting

1. Once the myGaze Assistive Eye Tracker has started, use the **Positioning** area in the **myGaze Menu** to position the user.



myGaze Menu and Access Button displayed



4. Perform a calibration (recommended). Otherwise a 0-point calibration will be done automatically.



You can configure myGaze EyeMouse Play to always calibrate on

startup. See Setting Calibration Properties.



See Performing a Calibration.

- 5. The user can now select an item using only their eye gaze.
- 6. After making a selection, the myGaze Menu will be automatically hidden.



A user profile can be set so that on subsequent launches of EyeMouse Play, the last saved calibration will be used instead of performing another calibration. See Managing Profiles.

7.3 Positioning Users

A user needs to be positioned in front of the myGaze Assistive Eye Tracker so the device can reliably track their eyes.

Here are a few guidelines for positioning users:

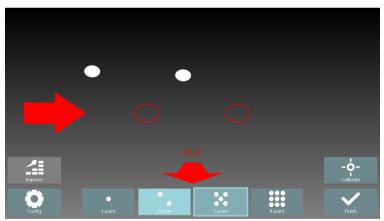
- Ensure the myGaze Assistive Eye Tracker is oriented upwards towards the user's eyes. It should be directed towards the user's eyes as the user sits comfortably in front of the Desktop Monitor or Laptop Display.
- Users should sit approximately 50 cm to 75 cm from the screen (optimal user position is between 60 cm and 70 cm away).
- Use the Positioning Guide icon in the system tray. When its color is green, the user's gaze can be tracked.

The following shows a user sitting centered and approximately 51 cm away from the myGaze Assistive Eye Tracker.



Positioning Window - Green (optimal)

The following shows a user sitting off center to the left and too close to the screen. Arrows are provided to guide the user to move to the right and away from the screen.



Move to the right and away from the screen

7.4 Opening the myGaze Menu

The **myGaze Menu** can be opened in several ways.

- Access button A user gazes at the Access button.
- Gaze point A user gazes at the center area of the myGaze Assistive Eye Tracker.
- Gaze Positioning Icon A caregiver or teacher can open the myGaze Menu using the popup menu from the Gaze Positioning icon in the System Tray.

Access Button

By gazing at the **Access** button, the **myGaze Menu** opens. The screen is dimmed to allow the user to focus on the **myGaze Menu**.



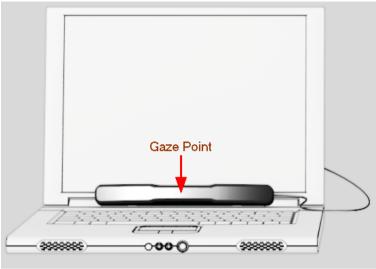
Gaze at Access button to open myGaze Menu



Access button properties, including the gaze duration, are set in the **Settings** tab of the **Configuration** window. See <u>Setting Access</u> Properties.

Gaze Point

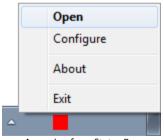
By gazing at the center point of the myGaze Assistive Eye Tracker, the **myGaze Menu** opens. The screen is dimmed to allow the user to focus on the **myGaze Menu**.



Gaze point on the Assitive Eye Tracker

System Tray

Right click on the **Gaze Positioning** icon in the System Tray. In the popup menu, select **Open** to display the **myGaze Menu**.



Accessing from Status Bar



If the **Positioning Guide** icon is not shown in the system tray, see Unhiding the Gaze Positioning Icon.

7.5 Selecting an Item from myGaze Menu

To select an item from the **myGaze Menu**:

1. Gaze at the **Access** button to open the **myGaze Menu**.



Access Button

- 2. Gaze at an item in the myGaze Menu.
- 3. When the item is selected, a checkbox will appear in the selected icon and the **myGaze Menu** will be automatically hidden.

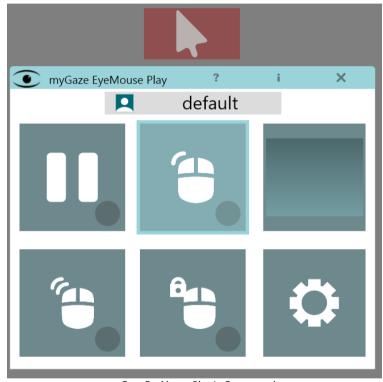
7.6 Activating Cursor Mode

When EyeMouse Play is running, the **Cursor** mode is used. In this mode, the user controls the movements of the cursor using only their eye gaze.

To switch between another mode and **Cursor** mode:

1. Gaze at the **Access** button to open the **myGaze Menu**.

- 2. Deselect the currently used mode by gazing at the respective button.
- 3. At the end of the Dwell-Gaze duration, the checkmark in the respective button disappears indicating **Cursor** mode is now active.



myGaze EyeMouse Play in Cursor mode

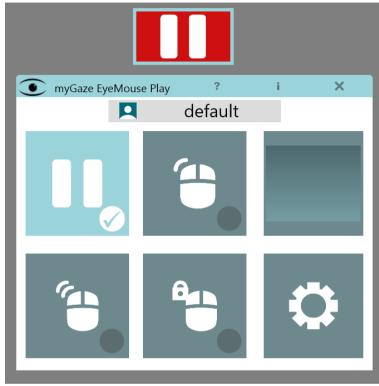
5. The myGaze Menu will be automatically hidden.

7.7 Pausing EyeMouse Play

Control of the mouse pointer can be returned from EyeMouse Play to the physical mouse by pausing EyeMouse Play. When activated, the **Paused** menu item is unchecked.

To pause EyeMouse Play:

- 1. Gaze at the **Access** button to open the **myGaze Menu**.
- 2. Gaze at the Pause EyeMouse Play button.
- 3. At the end of the Dwell-Gaze duration, the checkmark in the **Pause EyeMouse Play** disappears indicating **EyeMouse Play** is paused.



myGaze EyeMouse Play Paused

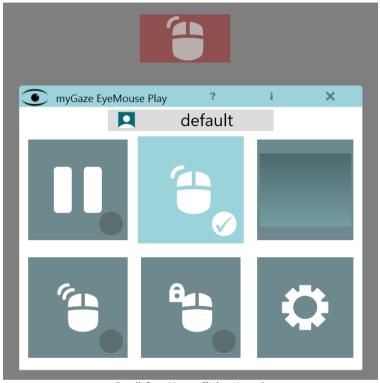
4. The **myGaze Menu** will be automatically hidden.

7.8 Activating Dwell-Gaze Mouse Click Mode

A single-click mouse command is enabled by the **Dwell-Gaze Mouse Click** button on the **myGaze Menu**. **Dwell-Gaze Mouse Click** mode allows a user to perform tasks that require this, such as clicking a menu item. The fixation time for gazing at an item on the screen is called the **Dwell-Duration** and is a pre-defined time set in the **Configuration** window.

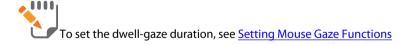
To activate **Dwell-Gaze Mouse Click**:

- 1. Gaze at the **Access** button to open the **myGaze Menu**.
- 2. Gaze at the **Dwell-Gaze Mouse Click** button.
- 3. At the end of the Dwell-Gaze duration, a checkmark in the **Dwell-Gaze Mouse Click** button appears indicating **Mouse Click Mode** is active.



Dwell-Gaze Mouse Click activated

3. The myGaze Menu will be automatically hidden.

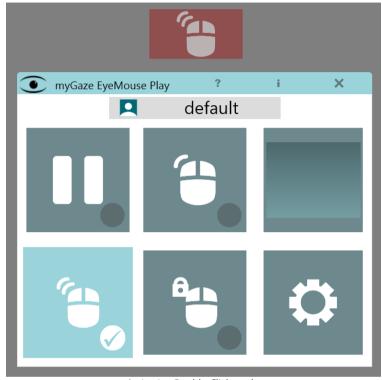


7.9 Activating Double-Click Mode

A double-click mouse command is enabled by the **Double-Click** button on the **myGaze Menu**. **Double-Click** mode allows the user to perform tasks that requires this, such as starting a program from a Desktop icon.

To activate **Double-Click** mode:

- 1. Gaze at the **Access** button to open the **myGaze Menu**.
- 2. Gaze at the **Double-Click** button.
- 3. At the end of the Dwell-Gaze duration, a checkmark in the **Double-Click** button appears indicating **Double-Click Mode** is active.



Activating Double-Click mode

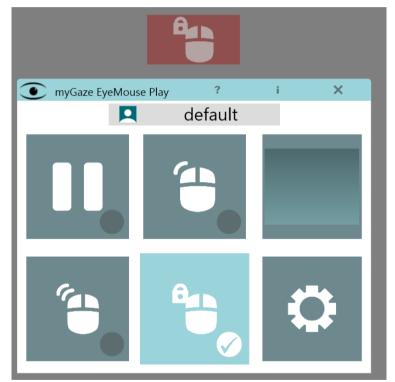
3. The myGaze Menu will be automatically hidden.

7.10 Activating Click and Hold Mode

A Click and Hold mouse command is enabled by the **Click and Hold** button on the **myGaze Menu**. **Click and Hold** mode allows the user to click and hold on an object to move it around the screen or application. The object moves with the user's gaze. For example, in a paint program, a user could paint by moving a "paint brush" around with their eyes to draw a picture.

To activate Click and Hold mode:

- 1. Gaze at the Access button to open the myGaze Menu.
- 2. Gaze at the Click and Hold button.
- At the end of the Dwell-Gaze duration, a checkmark in the Click and Hold button appears indicating Click and Hold is active.



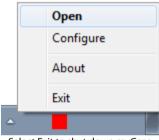
Activating Click and Hold mode

3. The myGaze Menu will be automatically hidden.

7.11 Shutting Down EyeMouse Play

To shut down EyeMouse Play:

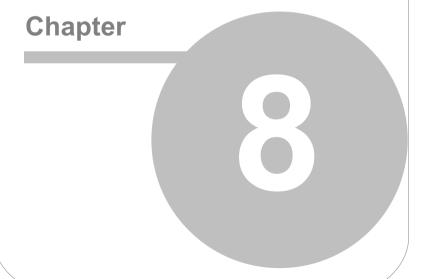
1. Using the PC Mouse, right-click on the **Gaze Positioning** icon in the system tray.



Select Exit to shut down myGaze EyeMouse Play

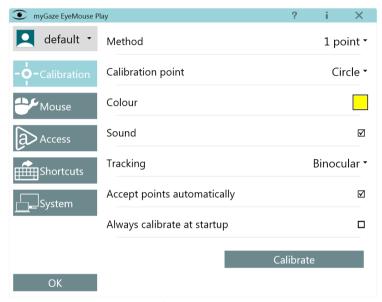
2. Click Exit.

Configuring EyeMouse Play



8. Configuring EyeMouse Play

Teachers or caregivers can use the **Configuration** window to set up a profile and configure EyeMouse Play for specific users and conditions.



Configuration window

The **myGaze Menu** consists of the following functions:

- Manage profiles Creates a user profile so that on subsequent launches of EyeMouse Play, the last saved calibration and other settings will be used. See Managing Profiles.
- Perform calibrations Adapts the internal software of the myGaze
 Assistive Eye Tracker to the unique characteristics of a user's eyes. See
 Performing a Calibration.
- Setting EyeMouse Play gaze functions Configures the mouse gaze to

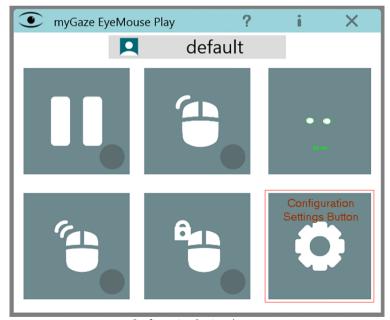
suit the needs and abilities of the user. See Configuring Mouse Settings.

- **Setting keyboard shortcuts** Provides settings for keyboard shortcuts for EyeMouse Play functions. See Setting Keyboard Shortcuts.
- System Settings Provides a number of system related settings for EyeMouse Play. See System Settings.

8.1 Viewing Configuration Window

To view the **Configuration** window:

1. Click or gaze at the **Configuration Settings** button.



Configuration Settings button

2. The **Configuration** window appears.

8.2 Managing Profiles

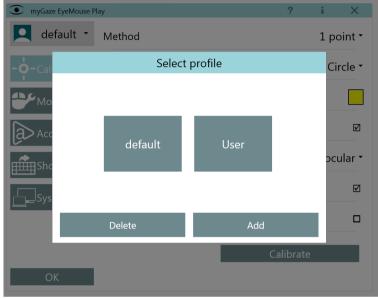
A Default user profile is provided that includes a number of settings which are suitable for most users.

However, you can create a user profile that can be used on subsequent launches of EyeMouse Play. This profile will be use each time EyeMouse Play is run until another profile is selected. This can be useful if you want to use the last saved calibration instead of performing another calibration and if you want to use the same settings.

8.2.1 Creating a Profile

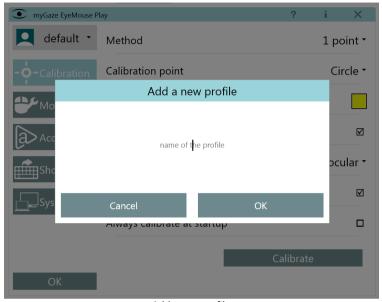
To create a user profile:

- 1. In the **myGaze Menu**, click the **Configuration Settings** button to open the **Configuration** window.
- Click the **Default** button in the **Configuration** window to open the **Select** profile dialog.



Select Profile dialog

3. Click **Add** to open the **Add new profile** window



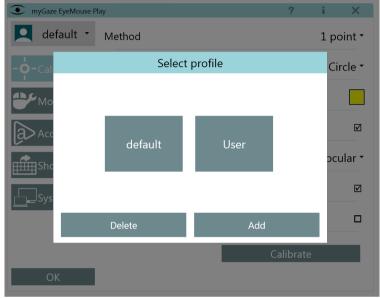
Add a new profile

- 4. Enter a new profile name and click **OK**.
- 5. You can now modify the settings for this new profile.

8.2.2 Selecting a Profile

To switch between profiles:

1. Click the currently set profile to open the **Select a Profile** dialog.



Select from the available profles

2. Select an available profile to load the settings of this profile.

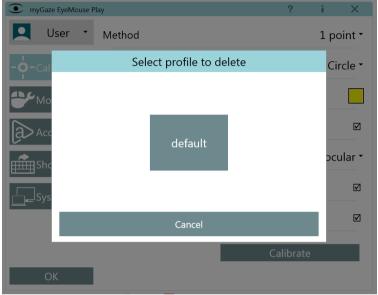
8.2.3 Deleting a Profile



A currently loaded profile cannot be deleted. You need to change to another profile before deleting a profile.

To delete a profile:

- 1. Change to another profile. See Selecting a Profile.
- 2. Click the **Delete** button to open the **Select profile** dialog.



Delete a selected profile

- 3. All available profiles that can be deleted will be shown.
- 4. Click the profile you want to delete
- 5. Confirm your deletion.
- 6. All the settings and profile name will be deleted.

8.3 Performing a Calibration

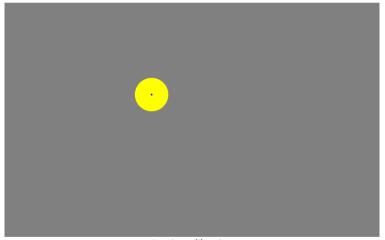
Calibration adapts the internal software of the myGaze Assistive Eye Tracker to the unique characteristics of a user's eyes. This is done to achieve the best possible data accuracy. A successful calibration ensures that the myGaze Assistive Eye Tracker accurately tracks where the user is looking on the screen.

To perform a calibration, a user fixates on a series of targets that are sequentially displayed on the screen.

8.3.1 Calibration Methods

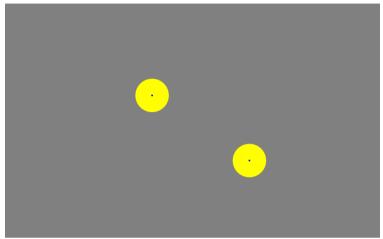
myGaze EyeMouse Play provides five different calibration methods with increasing accuracy as more fixation points are provided:

- **0-Point Calibration** (Calibration-free mode) This mode uses pre-set data. This mode can be used for most users.
- 1-Point Calibration This mode uses a single fixation point at which the user focuses on to calibrate the eye gaze.



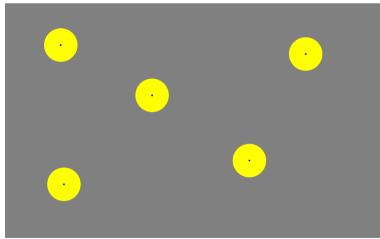
1-point calibration

• **2-Point Calibration** - This mode uses two fixation points that the user focuses on in succession to calibrate the eye gaze.



2-point calibration

• **5-Point Calibration** - This mode uses a set of five fixation points that the user focuses on in succession to calibrate the eye gaze.



5-point calibration

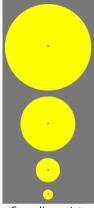
• 9-Point Calibration - This mode uses a set of nine fixation points and

provides optimal accuracy.

8.3.2 Cascading Points

To help the user to locate and fixate on a calibration point, the point cascades from a large circle to a small circle. When the user has correctly fixated on the point, the calibration will stop when the point is at its smallest. The next point will then be displayed.

The following shows a typical cascading point.



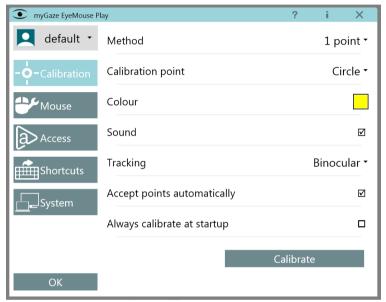
Cascading points

8.3.3 Setting Calibration Properties

The **Calibration** tab provides settings for a calibration that best suits the abilities of a user. This includes setting the calibration method and the properties of the calibration fixation points at which a specific user must gaze for the required gaze time.

To set **Calibration** properties:

- 1. In the **myGaze Menu**, click the **Configuration Settings** button to open the **Configuration** window.
- 2. Select the Calibration tab.

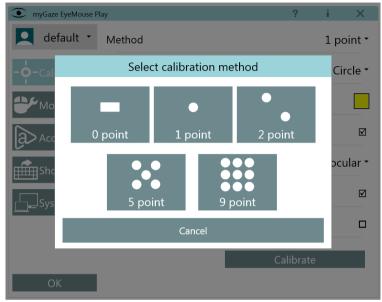


Calibration tab

- 3. Set the properties as required.
- 4. Click or select **OK** to dismiss the **Configuration** window.

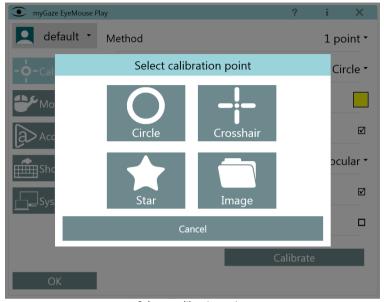
Calibration tab settings include:

Calibration Method - Select from 0 Point, 1 Point, 2 Point, 5 Point and 9
Point.



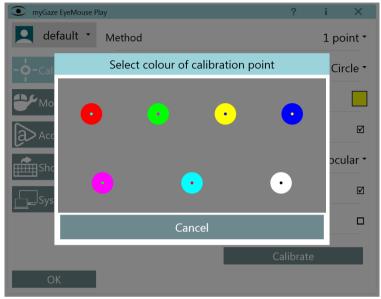
Selecting a calibration method

• Calibration Point - Select from Circle, Crosshair, Star, or an Image. By selecting Image, a Windows Browse dialog appears to load a suitable image for the point.



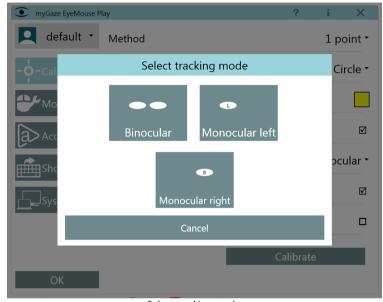
Select a calibration point

• **Color** - Select from seven predefined colors.



Select a calibration point color

- **Sound** Check to play a ping sound when a fixation point has been accepted. Default is **Play a sound**.
- **Tracking** Select from **Binocular** (both eyes are tracked), **Monocular Left** (only left eye is tracked) or **Monocular Right** (only right eye is tracked).



Select tracking mode

- Accept Points Automatically Sets acceptance method of calibration
 points. If set to Automatic (selected), the point is accepted when the
 software identifies that the user's gaze has fixated on a point at the
 moment when it is at its smallest size. If set to Manual (deselected), the
 user presses the Spacebar to accept a point.
- Always calibrate at startup Causes the Calibration window to appear when starting EyeMouse Play.

8.3.4 Running a Calibration

Calibration is performed in the **Calibration** window in full screen mode. This window is accessed through the **Calibrate** button in the **Configuration** window. After selecting a Calibration method, a series of calibration points are displayed in succession, depending on the calibration method selected. The gaze of a calibration point is accepted either automatically or manually. If set

to manually, the user presses the Spacebar to accept a calibration point.

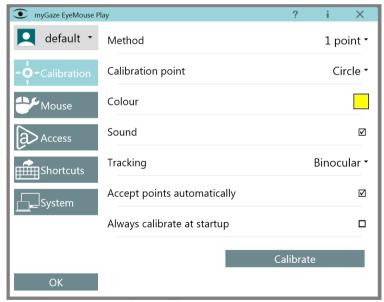
Acceptance normally occurs when the user fixates on a calibration point long enough for the software to determine the gaze location of a user. If a user has difficulty fixating on a point, using manual acceptance is preferred so the user can take sufficient time as required to fixate on a given point.



Running a calibration can be set to **Always calibrate on startup**. See Set Calibration Properties.

To run a calibration:

1. From the **Configuration** window, select the **Calibration** tab.



Calibration tab

2. Click Calibrate.

EyeMouse Play goes into full screen mode displaying the Calibration window.



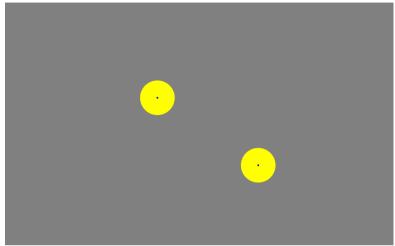
Calibration Window

4. Position the user so that the white ovals are within green outline ovals. This indicates the user is sitting in the correct position in front of the myGaze Assistive Eye Tracker.



Visual cues, including arrows, colors and distance measurements are provided to help the user sit in the optimal position. see <u>Positioning</u> Users Correctly.

- 5. Select a Calibration method: 1 point, 2 point, 5 point or 9 point.
- 6. Click **Calibrate** to begin the calibration.
- 7. After several seconds, fixation points will be displayed in succession on the screen, depending on which calibration mode was selected. The user must focus on each point as it is displayed. The following shows five fixation points for a 2-point calibration.



5 Point Calibration

8. If Accept Points Manually was set in the Configuration window (that is, Accept points automatically was deselected), click the Spacebar to accept a point when the circle is at the smallest size. If Accept points automatically was set (the default setting), acceptance is done when the software determines that the user has correctly fixated on the point.



9. The results of the calibration will be shown.



Calibration results

- 10.If the results are unusual or inadequate, click **Improve** to run the calibration test again on the failed calibration points, while ensuring the user keeps a focus on each point as it appears. See Improving a Calibration.
- 11. After calibration has been completed, click **Finish**.

8.3.5 Improving a Calibration

During the calibration process, if the system encounters 3 failed attempts to calibrate on a point, this point will be disregarded and move on to the next point.

At the end of the process the user can see how many points have been successfully calibrated and choose to improve their calibration by recalibrating the omitted points.

In the following example, 2 Point Calibration was used, as indicated by the two stars in the upper left corner. However, one point failed to calibrate properly. By clicking **Improve**, the user can recalibrate on the failed point.



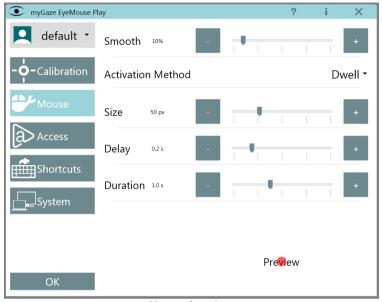
Recalibrating on points

8.4 Setting Mouse Properties

The **Mouse** tab provides settings to configure the mouse gaze to suit the needs and abilities of the user.

To set Mouse Play properties:

- 1. In the **myGaze Menu**, click the **Configuration Settings** button to open the **Configuration** window.
- 2. Select the **Mouse** tab.



Mouse tab settings

- 3. Set the properties as required.
- 4. Click or select **OK** to dismiss the **Configuration** window.



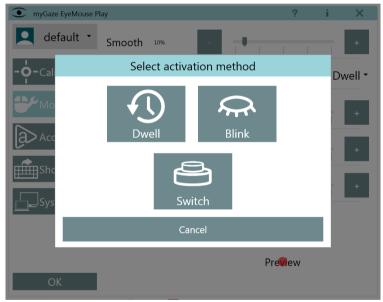
A live feedback of the changes is shown to verify the settings.



Live Feeback window

Mouse tab settings include:

- **Smooth** Assists the user in gazing around a screen. If smoothing is set to a lower value, then the gaze cursor will have a more abrupt movement across the screen. A higher smoothing value will make the gaze cursor have a more stable, less jumpy movement.
- Activation method Sets which method causes an action to occur. Dwell
 causes a mouse action to occur after the set dwell time. Blink causes a
 mouse action to occur after the user blinks. Switch causes a mouse action
 to occur after a user hits a switch, which is a set keyboard shortcut (when
 Switch is selected, an option appears to set a keyboard shortcut).



Select Activation Method

- **Size** -Sets the size of the dwell circle. Settings must be between 10 px and 160 px.
- Delay Sets the delay time that must elapse before a gaze dwell period starts. For example, if the delay time is set to 2 seconds, then the dwell duration will only begin after the user has gazed at a button or menu item

for 2 seconds.

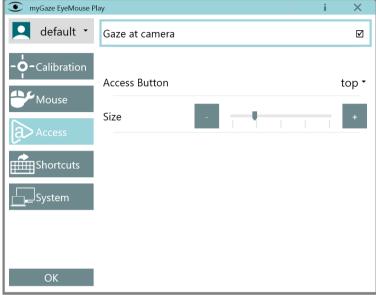
• **Duration** - Sets the duration of the dwell time. It can be increased or decreased from a quick pulse of 0.4 seconds to a longer duration of 2.0 seconds. This is the amount of time a user's gaze must dwell on a selection item before the item is activated. For example, if **Duration** is set to 1 second, then a user must gazes at a button or menu item for 1 second before the application responds to the user request.

8.5 Setting Access Properties

The **Access** tab provides settings for how the access the **myGaze Menu**. This can be through either the **Access** button or through the Gaze point on the myGaze Assistive Eye Tracker. The **Access** button can also be disabled and hidden.

To set Access properties:

- 1. In the **myGaze Menu**, click the **Configuration Settings** button to open the **Configuration** window.
- 2. Select the Access tab.

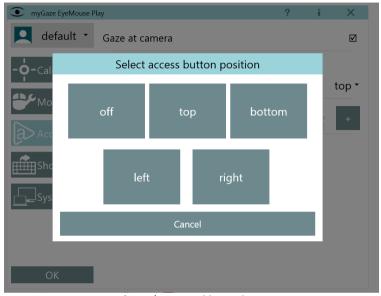


Access tab

- 3. Set the properties as required.
- 4. Click or select **OK** to dismiss the **Configuration** window.

Access tab settings include:

- Gaze at camera Set to use the gaze point of the myGaze Assistive Eye
 Tracker to show or hide the myGaze Menu. Deselect to use the Access
 button.
- Access Button Select from the dropdown list the most convenient location on the screen for the Access button. Selections include Off, Top, Bottom, Left, Right. If you do not want to use the Access button but only the gaze point of the myGaze Assistive Eye Tracker, select Off to hide the Access button.



Access button position settings

• **Size** - Set the size of the **Access** button. Use the slider to change the size.

8.6 Setting Keyboard Shortcuts

The **Shortcuts** tab provides settings for keyboard shortcuts for EyeMouse Play functions. With a keyboard shortcut a caregiver or teacher can manage EyeMouse Play functions without interrupting the program or activities of the user.

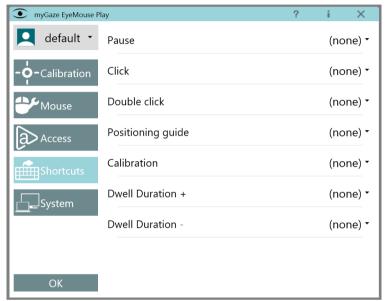
For instance, dwell time can be reduced or increased by using a key at the same time as the user continues with a task uninterrupted.

To set keyboard shortcuts:

1. In the myGaze Menu, click the Configuration Settings button to open

the **Configuration** window.

2. Select the **Shortcuts** tab.



Keyboard Shortcuts tab

3. Click the dropdown menu to the right of an item to select an option.



None indicates that no keyboard shortcut has been assigned. If a key has been assigned, this key will appear in the dropdown menu.

- 4. Press any key to set the shortcut.
- 5. Click or select **OK** to dismiss the **Configuration** window.



Be careful which key is chosen as a keyboard shortcut. Some keys

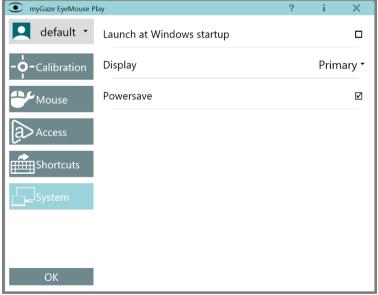
may be reserved for some applications and when pressed during the use of such an application can cause unexpected behaviors. Check for reserved keys for specific applications before setting.

8.7 System Settings

The **System** tab provides a number of system related settings for EyeMouse Play.

To set **System** properties:

- 1. In the myGaze Menu, click the Configuration Settings button to open the Configuration window.
- 2. Select the **System** tab.



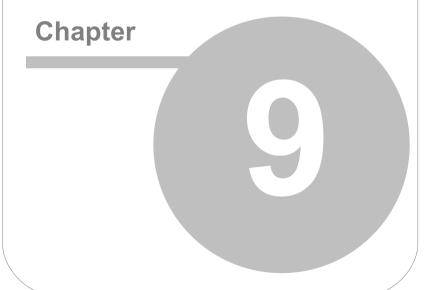
System tab

- 3. Set the properties as required.
- 4. Click or select **OK** to dismiss the **Configuration** window.

System tab settings include:

- Launch at Windows startup Select to start EyeMouse Play after Windows
 has started and the myGaze Assistive Eye Tracker has been powered up and
 running.
- Display If you are using two monitors, you can select either Primary or Secondary monitor and EyeMouse Play will automatically set the geometry values.
- Powersave When selected, the Powersave mode allows the system to 'sleep' when the user is not in front to the device. When the user's face is recognized, the system becomes active again after a few moments. This mode is best suited for tablets and when the device is running on battery power.

EyeMouse Play and Third-Party Software



9. EyeMouse Play and Third-Party Software

myGaze Assistive works well with a variety of third-party assistive programs for curriculum study, basic learning, AAC (Augmentative and Alternative Communication), leisure and rehabilitation activities, and more. This section describes Grid 2 AAC software, a popular AAC program by Sensory Software.



More information about suitable third party programs can be found on www.myGaze.com as well as from our global reseller network.

9.1 Grid 2 AAC Overlay

myGaze Assistive works out-of-the box with *The Grid 2* software, a popular AAC (Augmentative and Alternative Communication) program by Sensory Software. With this program, a user can rely on EyeMouse Play to access Grid 2 functions through their eye gaze.

Using Grid 2 with EyeMouse Play

EyeMouse Play has only two modes within the Grid 2:

• **Paused mode** - cannot issue any click commands to Grid 2.



Paused Mode

Active mode - any one of <u>Dwell-Gaze Mouse Click</u>, <u>Double-Click</u>, <u>Click and Hold</u> as well as the <u>default Cursor mode</u> which issues a Dwell-Click to Grid 2.

To use Grid 2 AAC Overlays with EyeMouse Play:

- Switch to Active mode by selecting any of the four Active commands in the myGaze Menu. In each of those modes EyeMouse Play will issue a Dwell-Click command within the Grid 2.
- 2. Select a button on the on-screen keyboard by looking at the button.
- 3. When the **Dwell-Gaze** period is complete, a click will occur.

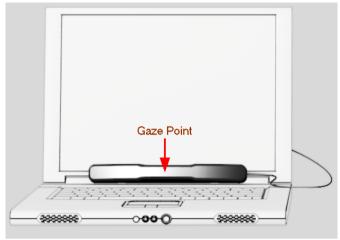


Dwell-Click in Grid

Independently Accessing myGaze Menu in The Grid 2

Accessing **myGaze Menu** in Grid 2 can be done through the two standard options:

• **Gaze Point** - Gazing at Gaze point of the myGaze Assistive Eye Tracker opens the myGaze menu is Grid 2.



Gaze point

• Access button - Gazing at the Access button opens the myGaze Menu in Grid 2.



Access button



If you choose the **Access** button option, set the size and location of the **Access** button so it will not interfere with the onscreen grid. See Setting Access Button Properties.



Access button shown overlaying the bottom part of The Grid 2 application

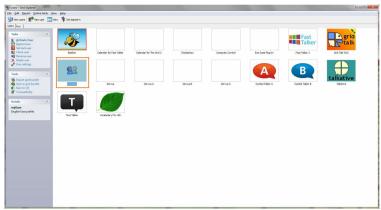
Customizing the Landing Grid

In addition to the standard access options, a user can also easily customize the landing grid for EyeMouse Play. This is done by adding grid buttons for all or some of the EyeMouse Play commands. These commands include:

- Calibration
- Positioning guide
- Gaze menu
- Configuration

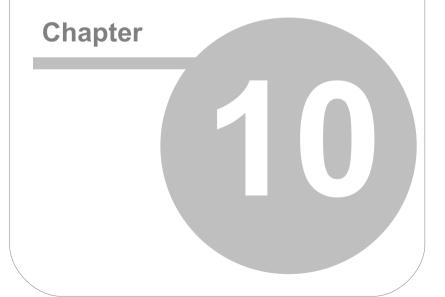


A standard myGaze grid created by Visual Interaction is available for installation in the EyeMouse Play folder after EyeMouse Play has been installed.



myGaze Grid

Appendix



10. Appendix

This section provides troubleshooting information as well as license agreements.

10.1 Troubleshooting

Time required to start up and configure EyeMouse Play

Please be aware that the EyeMouse Play needs time to start up and configure the device. The Eye Tracking system is not ready until it enables the IR illumination and starts to track the participant.

Restarting EyeMouse Play

It can be helpful in certain cases to simply quit the EyeMouse Play application and restart it again.

Dual monitor issues

The EyeMouse Play application is able to use a dual monitor setup. Be sure that the calibration of the Eye Tracking device will be performed on the same monitor which will be used by the user.

myGaze Eye Tracking Software issues.

For any questions regarding the myGaze Eye Tracking software please read the manuals delivered with the corresponding software.

10.2 License Agreement and Warranty

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About Visual Interaction



11. About Visual Interaction

Visual Interaction (VI) makes gaze-based interaction, multimodal user interfaces and focused analysis of visual interaction commonplace and affordable. Based on leading technology from SMI, a leader in eye tracking for 20 years, Visual Interaction brings to market myGaze, an easy to use and cost efficient stationary gaze tracking solution, specifically customized for the need of interactive solutions. For more information, see www.myGaze.com.

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